



Ministry of Trade, Industry

Role of Egypt National Cleaner Production Centre (ENCPC) in Promotion of Industrial Application of Renewable Energy in Egyptian Industry

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Egypt National Cleaner Production Centre

The Egypt National Cleaner Production Centre (ENCPC) was established as a service provider for the Egyptian Industry in 2005 by the Ministry of Trade and Industry (MoTI) in close cooperation with the United Nations Industrial Development Organisation (UNIDO) as a part UNIDO/UNEP global network of NCPCs/NCPPs (51 centres) and part of the Egyptian Industrial Council for Technology and Innovation.

With support from:

- Swiss Government
- Austrian Government
- Contribution by the Egyptian Government



Vision

Being a centre of excellence for Green Industries & Resource Efficiency and Cleaner Production in Egypt

Mission

Act as a vehicle for enhancing productivity and competitiveness of Egyptian industry through promoting the transfer of clean and innovative technologies and resource efficiency & cleaner production methods, tools and practices

ENCPC Services I

I- Technical Assistance for the Egyptian Industry

- Resource Efficiency and Cleaner Production (RECP) assessments
- Energy Efficiency and Industrial Application of Renewable Energy
- Industrial Chemicals Management:
 - Chemical Leasing Services
 - EU Directive on Registration, Evaluation, Authorization of Chemicals (REACH),
 - EU Directive on Classification, Labeling and Packaging (CLP)
 - Persistent Organic Pollutants (POPs)
 - EU Directive on ROHs (Restriction of Hazardous Substances)

ENCPC Services II

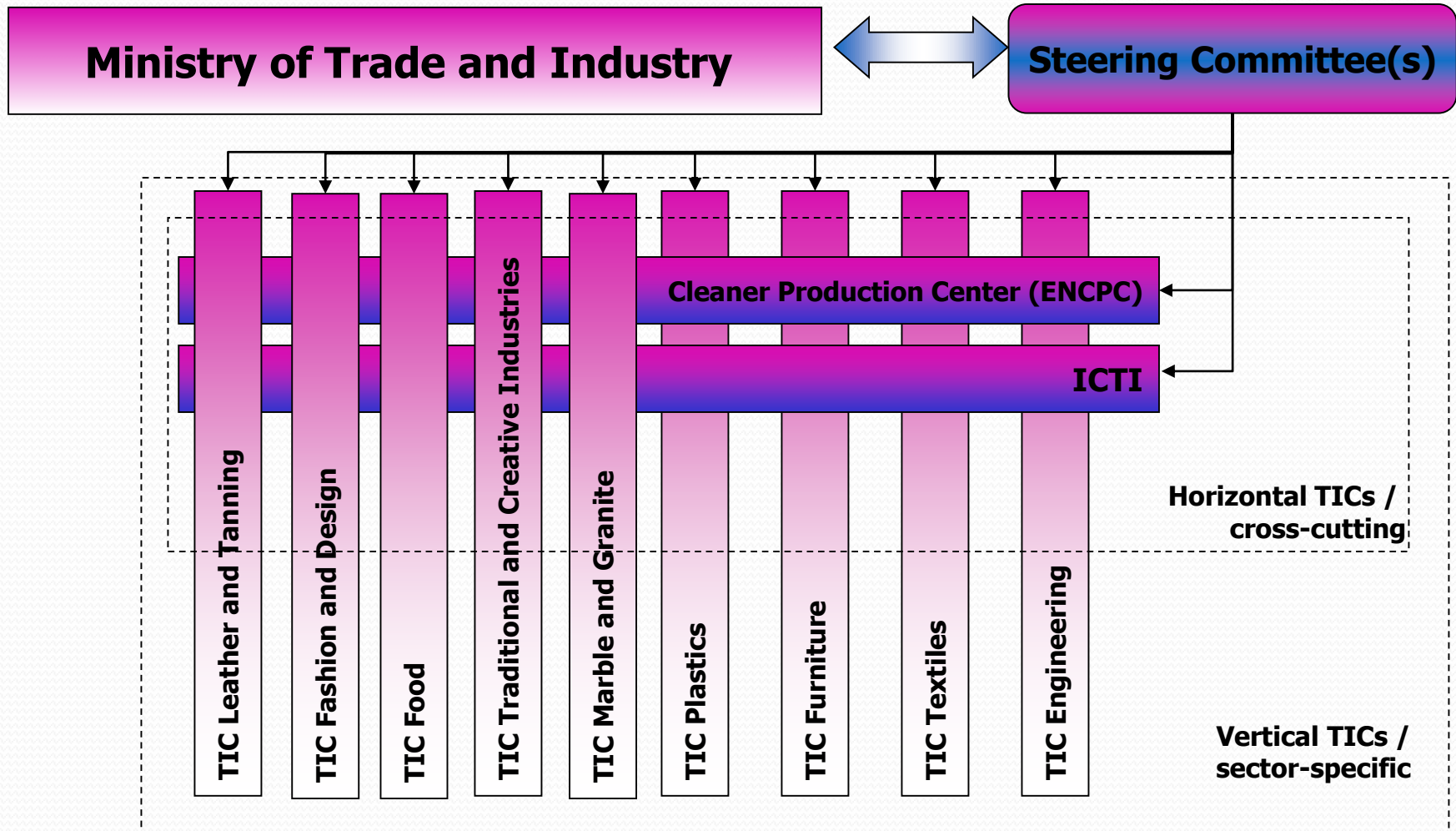
- Industrial Waste Management, Recycling and Zero Waste
- Environmentally Sound Technology (EST) Transfer & Innovation
- Green Entrepreneurship (energy, waste, water)

III- Financial Assistance: The ENCPC supports the Egyptian companies to follow the procedure to obtain financing for their projects from different financing packages available in Egypt (e.g EBRD, IFC, KFW)

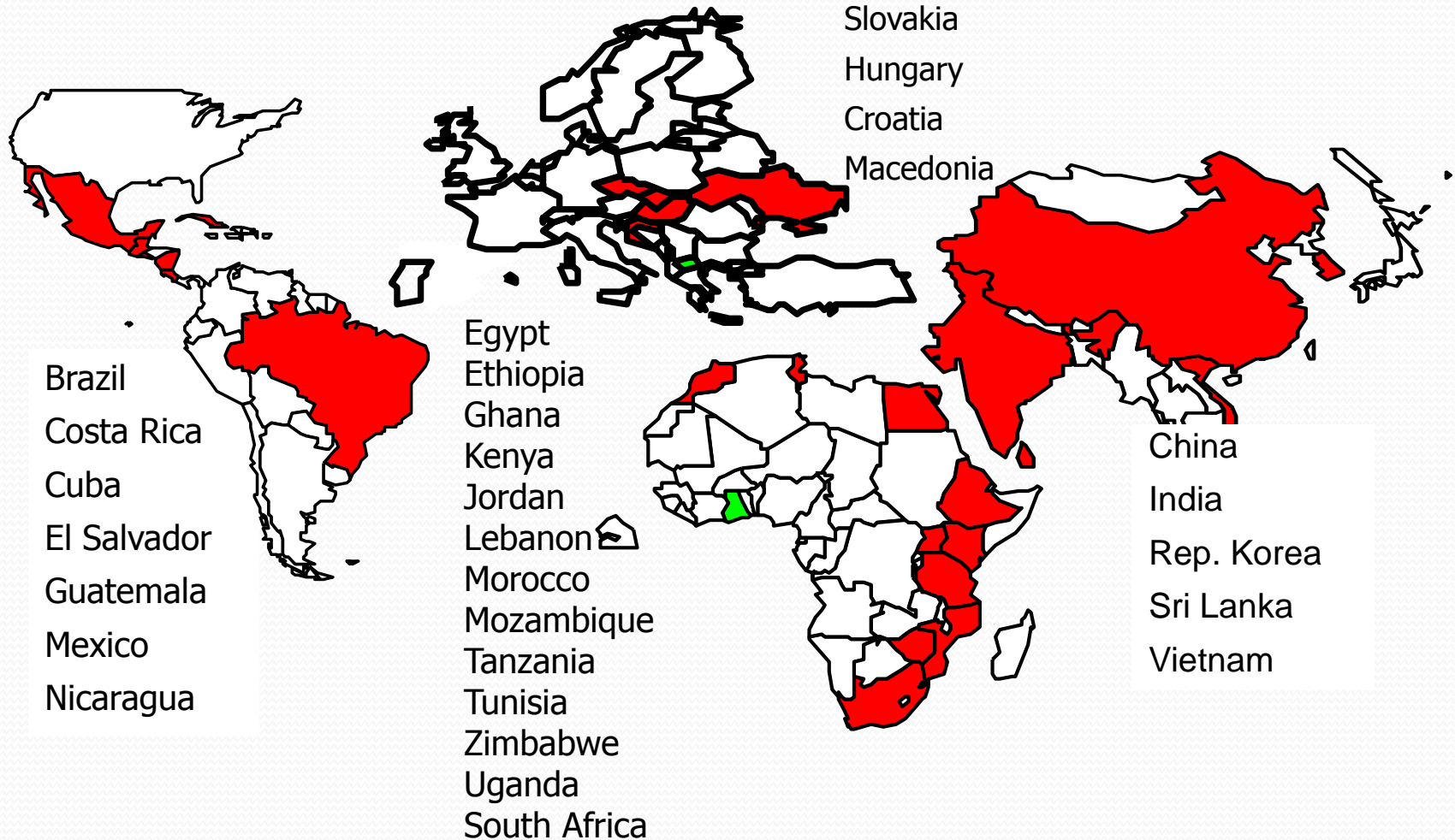
IV- Applied Training Programs- On Job Trainings

V- Joint National and International Projects

ENCPC Organization



NCPC Network Worldwide (51 Centers)



Current RECP Projects

Project Name	Partner(s)	Objectives/Main Activities
Utilizing Solar Energy for Industrial Process Heat in Egyptian Industry	UNIDO GEF	Develop the policy framework to support the use of low carbon technologies in industrial and commercial applications. Support the deployment of solar thermal technologies for multipurpose applications in industrial and commercial application. Enhancing the local market manufacture of solar energy components and systems. Build the capacity of technical staff designing, developing and servicing solar systems.
Green Growth: Industrial Waste Management and SME Entrepreneurship Hub in Egypt	African Development Bank MENA-Transition Fund	Mapping of the industrial waste at the enterprise level in the selected pilot area (possibly 10th of Ramadan which has 3000 industrial enterprises). Developing policy recommendations towards an enabling environment for industrial waste exchange in Egypt. Raising awareness and building capacities of stakeholders. Green Entrepreneurship Programme Development through the implementation of 3 demonstration projects in IWEX in the select pilot area.
Industrial Electrical Motor Driven Systems (EMDS) Efficiency Programme in Egypt	IFC (DANIDA and Korean Government) & UNIDO- GEF	Number of Policy measures for promotion of efficient electrical motors was developed National quality scheme for efficient electrical motors (norms/standards) was developed Raising awareness and capacity building on energy efficient motors achieved Local manufacturing and upgrading of feeding industry of efficient motors & integrated solution through its supply chain was promoted and achieved Demonstration of efficient electrical motors and its integrated solution practices in about 50 enterprises with reduction in energy total consumption up to 10 % was achieved

Current RECP Projects

Project Name	Partner(S)	Objectives/Results
Transfer of Environmental Sound Technology in the Mediterranean region (MEDTEST II)	SWITCH-MED UNIDO	Upscale adoption of best practices demonstrated within MED TEST pilot initiative (30 companies in Alexandria and Cairo). Develop the local market of Resource Efficiency and Cleaner Production (110 to 15 service providers) Raise awareness and transfer ownership for the Institutional Stakeholders.
Eco-innovation approach in Small and Medium-sized Enterprises.	UNEP (EU)	Raising awareness and capacity building on eco-innovation approach in Egyptian industrial sector (chemical sector as a case) is achieved. Improvement of knowledge and skills for eco-innovation implementation in the Egyptian SMEs in general and in chemical sector as a high priority case study was achieved. 5 successful stories/business cases for demonstration of Eco-innovation in SMEs from chemical sector was developed. Dissemination and promotion of eco-innovation concept/approach for up-scaling and replication in the Egyptian industrial sector was achieved.
Low Carbon and Climate Resilient Industrial Development in Egypt	UNIDO Japanese Ministry of Foreign Affairs	The project is implemented in four countries in Africa, Egypt, Kenya, Senegal and South Africa, through the National Cleaner Production Centre (NCPC) in each country. The Project Objective: The project aims at promoting of low carbon and climate resilient technologies for agro-food industry and service utilities (e.g. WWTP).

Current RECP Projects

Project Name	Partner (s)	Main Objective /Activities
Innovative Chemical Solutions – environmentally sound management of chemicals and chemical wastes	UNIDO with support from SECO	Carry out comprehensive assessments in the proposed enterprises in each of the selected sub-sectors. Development of minimum 5 case studies for the selected companies. Support Technical Primers/Manuals for each Sub-Sector and contribute to the development of the Draft Toolkit. Organizing a training and Preparation for Up-scaling of Innovative Chemical Solutions.
Cleaner Production Analysis Study- Benchmarking of RECP in Egyptian Industry	IFC	Preparation of comprehensive data because for all audit carried out by ENCC over the last 10 years Prioritization of 500 audits from different sectors Preparation of local benchmark for RECP based on the results of audits analysis Highlighting of main RECP areas to focus in the future in each industrial sector
Implementation of Green Entrepreneurship in Egypt	SWITCH-MED (EU)	Training for Local Trainers from SP/RAC on SWITCH MED Green Entrepreneurship concept Identification and Training for 160 Entrepreneurs on SWITCH MED Green Entrepreneurship concept (Water, Energy, Waste)
Fostering Renewable and Sustainable Energy in Africa through R&D “FORWARD”	African Union (EU)	-Preparation of R& D Plan for Renewable Energy link to the industry needs in the participating countries -Local Manufacturing and Industrlization Plan for RE -Training Plan for Renewable Energy -Political and Financial Support Plan -Demonstration for RE

Current RECP Projects

Project Name	Partner (s)	Objectives/Results
Development of Technology and Policy Road Map for a Low-Carbon Egyptian Cement Industry	EBRD	<ul style="list-style-type: none"> -Developing Technology roadmap for a sustainable low-carbon future of the Egyptian cement industry. -Identifying barriers - legislative, regulatory, and economic - for implementation of the roadmap and providing recommendations how to overcome them. - Promoting stakeholder engagement and cooperation between stakeholders through consultations and interactive workshops with both the authorities and the industry.
Developing of Alternative Fuel Road Map for Egyptian Cement Industry	IFC	The project aims at assessment of current situation for using of alternative fuel in cement industry in Egypt (opportunities and challenges) in addition of proposing a business model for implementation sustainable alternative fuel programme in Egypt
Guidance development and case study documentation of green chemistry and technologies	UNIDO, Yale University NCPC in Brazil, Egypt	Promotion of Green Chemistry Tools, Practices and Methods in the Industry
Centre of Excellence for Arab and African Region on Chemicals and Waste Management	UNIDO	Transfer of Knowledge and Capacity Building on chemicals and waste management for Arab and African Region using IOMC toolkits
Support the Establishment of Cleaner Production Centres in Sudan and Kuwait	UNIDO	Development of project document for set-up of cleaner production centre in Sudan and Kuwait

ENCPC Services and Achievements in 2015/2016

Energy Efficiency and Renewable Energy

- 48 Factories

Resource Efficiency and Cleaner Production

- 50 Factories

Sound management of chemicals

- 20 Factories

Industrial waste management

- 60 Factories

The transfer of environment-friendly technologies

- 21 Factories

ENCPC PARTNERS

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**Egypt National
Cleaner Production Center**





Ministry of Trade, Industry

Utilizing Solar Energy for Industrial Process Heat in Egyptian Industry

Background

- National Strategy for Renewable Energy is to satisfy 20% of the generated electricity by renewable energies by 2020.
- This mean reaching more than 7200 MW grid-connected through implementation of renewable energy projects by public or private sector in Egypt over the coming years.
- Egypt is ranked 11th country worldwide in the growing of Carbon Dioxide by growth .
- Heating Process for industrial applications is considered as one of the most common processes in the industrial sector in Egypt and in the main while is one of sources for producing Co₂ emissions



Project Objectives

- Promoting of Local Manufacturing of Renewable Energy Technologies for industrial application in process heating
- Reduction the use of conventional energy sources in the industrial sectors especially: Food, Chemical and Textile
- Creation of jobs & promotion of entrepreneurship for application of renewable energy technologies in industrial sector
- Reduction of GHGs and its environmental impact



Project Components

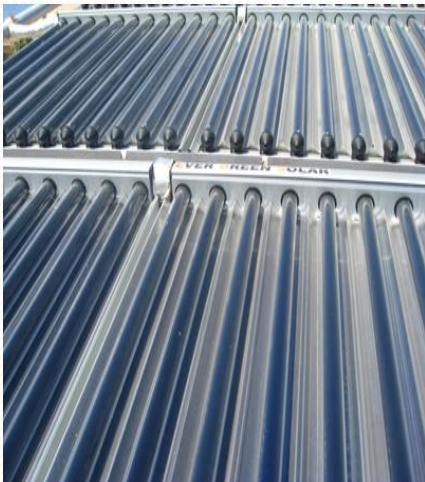
1-Policy Component:

-Development the policy and regulatory framework to support the use of low carbon technologies for heating in industrial applications

2-Technical Component:

-Support the deployment of solar thermal technologies for multipurpose applications in industrial and commercial application

-Enhancing the local manufacturing of solar energy components for heating processes



Project Components



3- Capacity Building and Raising Awareness

Build the capacity of technical staff designing, developing and servicing solar heating systems.

4-Financial & Demonstration Component

- Development of innovative financial package for solar energy technologies with 2 Million US\$ and would be extended with more fund from other interested donors





Expected Results

- Design of incentive schemes & policies to promote local manufacturing of solar heating technologies
- Demonstration of pilot projects for using solar thermal technologies for heating processes- 100 pilot projects
- Capacity building for 200 local Egyptian experts in the field of manufacturing & operation of solar power technologies used for heating in industrial applications
- Development of standard specifications for manufacturing ,installation & operation of solar thermal technologies for industrial sector to ensure its high quality and performance
- Design innovative financing package for financing of solar heating project in industrial sectors (Food, Textile and Chemical)

Projects Partners & Budget

Partners:

- Ministry of Trade, Industry
- Egypt National Cleaner Production Centre (ENCPC) at the Industrial Council of Innovation and Technology
- New and Renewable Energy Authority (NREA)
- Egyptian Organization for Standardization (EOS)
- Federation of Egyptian Industries
- United Nations Industrial Development Organization (UNIDO)
- Global Environmental Facility (GEF)

Project Duration

- 5 years starting on April 2015

Project budget:

- Total budget is 6.5 Millions US \$



Ministry of Trade and
Industry





Thank You

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